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ABSTRACT

The report contains a brief explanation of the need for, and justification of, and the basic construction requirements for a performing arts cultural center on the West Campus of Pima Community College. The spatial needs are outlined and the architectural specifications for the instructional area and the performing facility are listed. Additional supporting information is in the appendixes and in the bibliographical references. The report, prepared by academic professionals who would be using the proposed building, represents the conceptual phase of the project and does not reflect the direct involvement of an architect. (Author/MLF)

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS 3

FOREWORD 4

I. STATEMENT OF PROBLEM 5

II. PROGRAM NEEDS 12

III. MUSIC INSTRUCTION FACILITY ARCHITECTUAL SPECIFICATIONS. . .17

IV. PERFORMING ARTS FACILITY ARCHITECTUAL SPECIFICATIONS . . .26

V. SUMMARY 39

APPENDIX I: Minutes of the Meetings 43

APPENDIX II: How To Organize for EDSPECS Development 49

APPENDIX III: Music/Drama Enrollments 52

BIBLIOGRAPHY 53

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Dean Diego Navarrette: Dean of Student Services, Interim Executive Dean
Ken McCollester: Communicative/Fine Arts Area Associate Dean
Albert M. Amado: Architectural Designer/Draftsman
Barclay Goldsmith: Drama Faculty
Hugo A. Olsson: Facilities Planning Director
Richard H. Snider: Drama Faculty
Larry Solomon: Drama Faculty
Jack Schwanke: Drama Faculty
Harold Symms: Music Faculty
Carl Wachsman: Music Faculty
Elisabet Bailey: Speech Faculty
Lynn G. Bonner: Speech Faculty

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Finally, the committee extends its gratitude and appreciation for the leadership and direction of Dr. Irwin Spector, President of Pima Community College.

FOREWORD

In keeping with the master building plan of the West Campus of Pima Community College, the District President, Dr. Irwin Spector, called together a group of faculty and administrators during the third week of October, 1977, to initiate the study and preparation of the educational specifications for a Performing Arts Cultural Center. Dr. Jack Fuller was appointed to direct the project and on October 24, 1977, met with representatives of the West Campus Music Department, the District Architect's Office, and the College Administration. Throughout the month of November, subsequent meetings of the committee were held, including visitations to other similar facilities in the state of Arizona. During this period, faculty reactions from the drama and the speech departments were also invited. In the months of December, 1977, and January and February, 1978, the committee incorporated its thoughts and recommendations into the document that follows. In summary, it was determined that a Performing Arts Cultural Center approximating 34,000 square feet and the educational needs noted herein would minimally satisfy the music education and cultural mission of the college.

Dr. Jack W. Fuller
Tucson, Arizona
April, 1978

I. STATEMENT OF PROBLEM

A. Introduction

As educational facilities are planned and designed, it is important that their characteristics and specifications are in keeping with the philosophy and goals of the institution. To that end, a review of the Pima Community College philosophy and goals are in order. Particular attention should be given to the College's Commitment to providing a good educational and cultural environment.

> Pima Community College Philosophy
>
> The proper functioning of a democratic society and the well-being of individuals depend on the opportunity to develop their abilities in accordance with their own chosen goals. To achieve this end, Pima Community College believes education should be designed as a continuous process, developing an awareness of individuals, both of themselves and their environment, and thus, preparing them to function more effectively in a highly complex society.
>
> All individuals in the college community are encouraged to take pride in their own heritage and, at the same time, to develop an awareness and appreciation of differences which stem from differing backgrounds.
>
> An institution committed to these ends attempts to create an atmosphere rich in a diversity of subject matter, materials and educational approaches in accepting the principle of continuous and open evaluation of all activities, the college encourages all participants to make free, intelligent, and responsive choices from a wide range of alternatives.

The availability of more comprehensive music instruction and performing arts facilities at Pima Community College will provide students with an opportunity to more meaningfully and democratically pursue their chosen goals from an even wider range of alternatives. Moreover, the new facility would enhance the college's ability to present art forms that are representative of the unique culture and heritage of the student body and community.

Pima Community College's Institutional Goals

- To provide educational opportunities that facilitate human and personal development.
- Provide an environoment that promotes independent thinking and effective communication.
- Prepare students for entry into and appreciation of actual careers.
- Develop an instructional program that accommodates individual differences in learning rates, aptitudes, prior knowledge, etc.
- Engender in each student a concern for excellence and a desire for continuous learning.
- Develop an institution whose total environment is dedicated to learning and open to those who desire to learn.
- Utilize the total community as a laboratory for learning.
- Contribute to the educational, social and cultural development of Pima County.
- Institute an organizational concept of defining outcomes, differentiating processes, and evaluating results for all undertakings.
- And provide for continuous college evaluation.

The ability of the college to fulfill these educational and cultural goals is enhanced by appropriate accommodations for the respective curricula. With the current limitations of existing cultural facilities, it is difficult for the college to fulfill its commitment to promote independent thinking, effective communication, and individualized instruction because:

1. The involvement of the community in the arts is severely limited by the absence of performing arts facilities.
2. Music classrooms and laboratories are simply too crowded to permit anything more than minimal attention to these institutional goals.
3. The degree to which the college can contribute to the educational, social, and cultural development of Pima County is similarly restricted.

In order to meet these goals and objectives, it is recommended that the college consider the construction of a Performing Arts Cultural Center.

B. The Need

The construction of a Music Instruction facility is necessary to the music program, since it has outgrown a building that was belatedly adjusted to attempt to accommodate music instruction. A music facility was never specifically designed or built. As a result, the music program has had to accommodate their instructional needs to a facility that is too small and that is ill-designed for music instruction. During the fall semester of 1977 alone, sixty-five (65) sections of thirty (30) different music classes enrolling 1,115 students, including 235 music majors, were held in two general classrooms, 1 piano laboratory, 7 practice rooms, 1 teaching room, and 1 instrumental rehearsal room. Meanwhile, 4 full-time and 15 part-time music instructors, as well as materials, supplies, and equipment, were housed in 5 small faculty offices and 4 closets. With these kinds of cramped and over-scheduled facilities, student-instructor interchange becomes virtually impossible. Technically speaking, the music building also suffers from the following constraints:

1. Music room 109 is the only rehearsal room.
   a. The room is too small and the decibel levels created by the instruments are so great that they could potentially inflict hearing damage on students and instructors.

b. The multi-purpose function of this room demands that both instrumental and choral groups use it for rehearsal. This creates an untenable situation because the acoustical demands of each medium are at opposite ends of the acoustical range and students have difficulty in acquiring correct tone and note perception. Similarily, instructors cannot teach correct musical content. A choral room requires a reverberation time of 4.0 seconds. A band room needs a reverberation time of 2.0. Any kind of a compromise makes the room inadequate for either medium. Each needs a room specifically designed for its respective purpose.

c. The dimensions of the room allow for no depth perception on the part of directors; e.g., with a choir of 80 voices, the leader can only stand 10 feet in front of the group. This makes it impossible to conduct the rehearsal effectively because the leader can only perceive the instruments or voices close to him. Positions to either side or to the rear are technically inaudible.

d. There are so many instruments and other forms of equipment stored in the room that utilization is severly limited. Small group instruction, circles or sections are difficult to arrange. Equipment is exposed to spectators and other passers-by who are inclined to mis-handle instruments.

2. Music room 114 is designated for private instruction use. However, with several hundred students requiring private music space and the need for an ensemble room, it is necessary to put instructors and students into small practice rooms to teach lessons.* This again is a setting in which effective teaching is impossible because of poor acoustics.

* At times, these rooms are not available and students must be moved to other rooms if available. Instructors and students are frequently inconvenienced in this regard, even to the point of cancelling class meetings.

3. Music room 107 is used as the piano lab. It has 12 student pianos and a teaching console located in the room. The room is too small for this equipment and creates two basic problems:
   a. It is impossible for instructor to circulate around the pianos and monitor the students' work.
   b. The pianos are so close together that it is impossible to teach or encourage good playing postures. The student must sit too close to the piano to play correctly.
4. Storage rooms are inadequate. The department has thousands of dollars worth of equipment for which it is responsible. Security measures have been thoroughly analyzed and constantly up-dated to safeguard our responsibility due to lack of appropriate storage areas. Nevertheless, theft is a reoccurring problem because of inadequate storage. Appropriate storage facilities will alleviate much of this concern and dollar loss.
5. Practice rooms are too few in number. The department has seven practice rooms. These rooms are all that is available to service the needs of over 200 students who are expected to place studio practice in their daily schedules. As a result, current students can only practice about two hours per week. This is a totally unsatisfactory limitation for quality music instruction according to practices in other Arizona Community Colleges. Based on data used by other Arizona Community Colleges in developing similar facilities, current music enrollments at Pima College would require 24 practice rooms.
6. The music library is virtually non-existent. This room is used for storage, filing and repair of primary teaching texts (music). The files and room are filled to capacity and more space is needed to accommodate the growing program.
7. The instrument repair room is sorely needed to perform minor equipment repairs that could save hundreds of dollars annually as well as educational rehearsal time.

8. MUS 108 and 113 are inappropriately designed for classrooms and music theory. Moreover, because of sound pollution, they are not satisfactory for voice or instrumental instruction.
9. There is no satisfactory room for teaching music theory. Currently, the chorale rehearsal room substitutes when available.
10. All classrooms and practice rooms are acoustically deficient and prone to sound pollution. The scheduling of appropriate activities in adjoining rooms at the same time has become almost impossible. Students and instructors alike become frustrated; instructors because they cannot communicate, students because they cannot grasp what is being taught. The teaching of music is the teaching of controlled sounds. Sounds cannot be controlled in an acoustically polluted room.
11. There is no ensemble room. The scheduling of recitals, ensembles, quartets, trios, etc. in the music department creates room utilization problems that are frequently unsolvable. It is important that the music student know and experience these alternative music groupings.
12. Existing teaching studios cannot accommodate all voice and piano instruction, and faculty offices must be used on frequent occasions for this purpose.

In striving to fulfill its cultural mission, Pima Community College hosted approximately two hundred (200) scheduled cultural events during the 1977-78 academic year, as follows:

1. Concert Series (15 presentations)
2. Film Series (24 showings)
3. Art Exhibits (20 shows over 36 weeks)
4. Formal Concerts (12)
5. Cultural Week (6X)
6. Speakers Bureau (2 lectures)
7. Student Recitals (15)
8. Artist-In-Residency (one artist)
9. Professional Artists Concerts (2 artists)
10. Pima Artist Series (3 artists)
11. Poetry Series (8 poets)
12. Ten Instructional Clinics
13. Exploring Community Issues Forum (2 forums)
14. Special-Projects (5 projects)
15. Fine Artist Series (5 presentations)
16. Reader's Theatre (2 presentations)
17. Student Drama Productions (7 plays)

In addition to these events and because of its increasing cultural identity, Pima Community College could also conceivably accommodate the Tucson Civic Chorus, the Tucson Symphony, the Tucson Ballet Company, the Opera Company, dramatic companies, musical companies, traveling music and drama productions, and incoming artists from all geographic areas if a new performing facility were available. Facilities permitting, the college could also accommodate an expanded program of student assemblies, speech tournaments, sports rallies, and guest speakers.

With this kind of focus, a performing arts facility would serve as a cultural center not only for specific instructional and educational goals, but to bring a cosmopolitan exposure of entertainment and education in the performing arts to the entire community.

II. PROGRAM NEEDS

The purpose of this paper is to present the program needs for, and the educational requirements of, a Performing Arts Cultural Center for the West Campus of Pima Community College. Based on research of the professional literature, the advice of experts, including our own faculty and staff, and visitations to similar educational facilities, the following program facility requirements were determined.

Essentially, the music instruction program is in need of a facility especially designed and constructed to facilitate quality education of voice, instrumental, and theory instruction. This facility should include practice, teaching, rehearsal, office, and storage capabilities. The entire college and community, inclusive of music, drama, speech, student services, and community service departments, could productively utilize the accommodations of a performing facility for myriad events and activities.

With regard to the music instruction component, the committee determined the following features would meet the needs of the music program, faculty and students:

General Conditions

1. All rooms and doors should be acoustically designed for complete sound isolation.
2. All rooms should have adequate and silent lighting and ventilation. (Adequate lighting in a music room should be given special attention. Students are frequently situated at a greater distance from the printed page than in a normal reading situation).
3. All rooms should be carpeted so that the sound reverberations and external sound pollution can be better controlled.
4. An acoustical consultant should be involved in the early stages of design to avoid costly remodeling, and all rooms should be acoustically treated for music production.
5. Provisions for closed-circuit television should be made in all instructional areas. Video instruction is playing a role of ever-increasing importance in education, and to forego its inclusion in future music instruction might be expensively remiss.
6. All rooms should have sufficient outlets to meet the needs of the facility.

7. All offices should be pre-wired for phone services.
8. All piping and wiring should be concealed within the structure to provide as aesthetically appealing an appearance as possible.

SPATIAL NEEDS

Music Instruction Facility
Pima Community College

Approximately 17,000 square feet

Type of Room or Space	Number of Rooms/Spaces Needed	Current Space (Total Sq. Ft.)	Difference
I. Instructional Areas			
A. Theory Room	1	0	+1
B. General Classroom	2	2 (1032)	0
C. Piano Laboratory	1	1 (320)	0
D. Practice Rooms	24	7 (392)	+17
E. Teaching Studios	4	1 (176)	+3
F. Instrumental Rehearsal Room	1	1 (1737)	0
G. Percussion Ensemble Room	1	0	+1
H. Choral Rehearsal Room	1	0	+1
II. Auxiliary Areas			
A. Instrument Repair Room	1	0	+1
B. Full-Time Faculty Office	6	4 (384)	+2
C. Associate Faculty Office	1	1 (128)	0
D. Multiple Storage Facilities	5	4 (219)	+1
E. Music Library/Workroom	1	1 (120)	0
F. Secretarial Office	1	0	+1
G. Student Study Area	1	0	+1
III. Non-Assigned Space			
A. Public Rest Rooms	2	2 (252)	0
B. Mechanical Room	–		
C. Maintenance Room	–		
D. Hallways	–		
		TOTAL (4760)	

With regard to the performing center, the committee established the following program requirements:

General Conditions

1. The facility is to be designed as an auditorium primarily for music performances and related activities of the music and drama departments of the college as well as similar activities from the community and imported artists, orchestras, dance, etc.

2. Within the above conceptual parameters, the facility is to include a stage adequate to meet the needs of musical, drama, and dance productions.

3. The lobby should serve as an exhibit area for art displays representative of the unique heritage and culture of the college and community.

4. Auxiliary areas necessary to these functions should be included in the over-all concept.

5. The architect should provide within the design effective environmental control in relation to thermal, acoustical, visual, spatial and aesthetic elements.

6. The facility is intended as a cultural center for the college and community and should be able to accommodate as broad a range of potential cultural activities as possible.

7. Capability should also be considered for future expansion of property storage areas as well as extension of the stage to an outdoor theatre concept.

SPATIAL NEEDS SUMMARY

PERFORMANCE CENTER

PIMA COMMUNITY COLLEGE

Approximately 17,000 square feet

	Type of Room or Space	Number of Rooms/Spaces
I.	STAGE AND RELATED AREAS (Approximately 6400 sq. ft.)	1
II.	BODY OF THEATRE (500 seats, approximately 6500 sq. ft.)	1
III.	EXHIBIT/LOBBY AREA	1
IV.	AUXILIARY ROOMS/SPACE	
	A. Property/Costume Storage	1
	B. Electrical Workroom/Storage	1
	C. Dressing/Rest Rooms	2
	D. Green Room (Waiting Room)	1
	E. Orchestra Pit	1
	F. Control/Recording Rooms	2
	G. Office/Work Room	1
V.	NON-ASSIGNED SPACE	
	A. Mechanical Room	
	B. Public Rest Rooms	
	C. Other	
VI.	ACOUSTICAL CONSIDERATIONS (Also note under individual space descriptions)	
VII.	COMMUNICATIONS AND ELECTRONICS (Also note under individual space descriptions)	
VIII.	OTHER EQUIPMENT	

III.

MUSIC INSTRUCTION

ARCHITECTURAL SPECIFICATIONS

Based upon comparisons to similar facilities in the state of Arizona and to select references in the professional literature, the following architectual specifications are recommended for the music instruction facility.

I. INSTRUCTIONAL AREA

A. The theory room should:

1. be at least 1120 sq. ft., with floor dimensions of 35′ x 32′ and 12′-14′ ceilings.
2. have permanent risers with four levels, including the ground level. Each tier should have a 60″ depth and a 10″ rise. Risers should be arranged in arcs facing the front of the room. Floor space in front of the first tier should be approximately 18 feet.
3. have at least a 30′ chalkboard on the front wall. Each of the side walls should have a chalkboard. Chalkboards should be black.
4. have access doors located on a side wall. Doors should be large enough to accommodate movement of a grand piano.
5. have a bulletin board on the side wall near the door.
6. have a dimmer control switch for lighting located in the front of the room.
7. have lockable storage areas for the sound system located on the side wall and on the bottom tier and an opaque projector.
8. have a lockable storage closet located in the back of the room for tapes, scores, and other reference materials.
9. have a grand piano, a sound system, an opaque projector, a projection screen, and fifty portable folding tablet arm chairs.

B. The two general classrooms should:

1. be at least 1120 sq. ft. each, with floor dimensions of 35′ x 32′ and 12′-14′ ceilings.
2. have chalkboards on the front and on one side wall. Chalkboards should be green.
3. have a bulletin board on a wall near the door.

4. have access doors large enough to accommodate movement of a grand piano.
5. have lockable storage closets located in the side wall near the front of the room. Consider using sliding doors.
6. have a sound system, a projection screen, 30 portable folding tablet arm chairs, and a piano for each room.

C. The piano laboratory should:

1. be at least 900 sq. ft. for eighteen student stations.
2. have all electrical wiring and cables for the pianos concealed in the structure for aesthetic purposes.
3. have doors in the back of the room so that the traffic flow doesn't interrupt instruction or performances.
4. have at least a depth of 10' of teaching stage area in the front of the room.
5. have aisle space between the rows of pianos of approximately 5' to allow full movement.
6. have a green chalkboard on the front wall.
7. have a bulletin board located on a wall near the door.
8. have access doors in the front of the room large enough to accommodate movement of a grand piano.
9. have a lockable storage closet located near the front of the room for A.V. materials and equipment. Consider using sliding doors.
10. have an 18-station Wurlitzer piano lab with attendant visualizer, an acoustic piano, projection screen, an overhead projector, and a small sound system.

D. The practice rooms should:

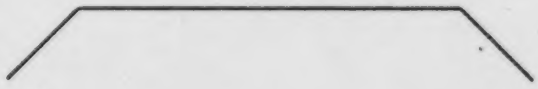
1. be a minimum of 24 in number.
2. be at least 81 sq. ft. (each) with 12' ceilings.
3. have doors with narrow windows.
4. have non-parallel walls to avoid sound reflection.
5. have a 6' x 3' mirror on one wall of each room.
6. have 15 acoustic pianos.

E. The teaching studios should:

1. be a minimum of four in number.
2. be at least 200 sq. ft. (each) with 12′ ceilings.
3. have green chalkboards.
4. have bulletin boards near the door.
5. have 6′ x 3′ mirrors on the wall.
6. have lockable storage closets.
7. have access doors large enough to accommodate movement of a grand piano.
8. have a small narrow window for each door.
9. have 2 small sound systems and 2 grand pianos.

F. The instrumental rehearsal room should:*

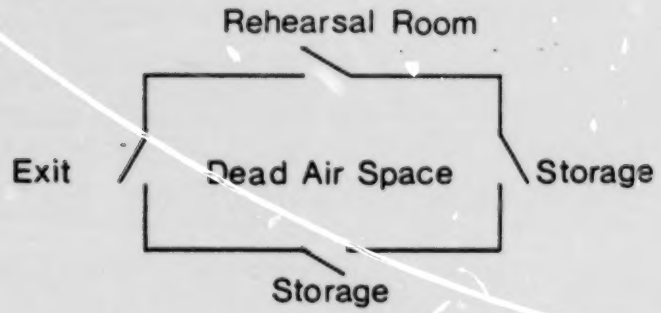
1. be at least 2640 sq. ft., with 16′ - 18′ ceilings. Ceiling and floor should be non-parallel.
2. have no seating against a wall or within 7½′ of the ceiling so that sound can circulate around the listener and be correctly perceived.
3. have permanent risers, with four levels, including the ground level. Each tier should have a 60" depth and a 10" rise. The top tier should have a depth of 120" to accommodate the larger instruments. Risers should be contoured as per the following sketch:



4. have a top tier with two doors of sufficient size to accommodate large percussion instruments with;
   a. an entrance to the percussion ensemble room and
   b. an exit ramp to move large instruments. (approximately 30% slope).
5. have a faculty office located toward the front of the room toward one side and opening into the rehearsal room.

* Note: Separate rehearsal rooms are required for instrumental and vocal instruction because of differing acoustical demands.

6. have a main entrance door to the rehearsal room designed as per the following sketch:



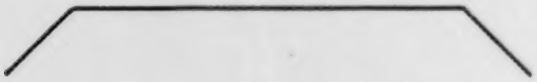
7. have main entrance doors to the rehearsal room large enough to accommodate movement of a grand piano.
8. have two sets of doors from the rehearsal room into the instrument storage area to accommodate traffic flow.
9. have a back wall in the rehearsal room with an angle of approximately 10% to eliminate right angles and optimally diffuse sound.
10. have easy access from the rehearsal room to the auditorium stage.
11. have a front wall with a green chalkboard 22′ long.
12. have a storage area located toward the front of the rehearsal room for a permanent sound system.
13. have outside windows.
14. have 110 chairs that insure correct posture for playing, a projection screen, a sound system, and a grand piano.

G. The percussion ensemble room should:

1. be at least 460 sq. ft. with a 12′ ceiling.
2. have a door of sufficient size to accommodate large percussion instruments.
3. have built-in shelves and lockable cabinets for storage of percussion instruments.

H. The choral rehearsal room should:

1. be designed for choral rehearsal and recital functions. Floor configuration should create a focal point at the front and should be at least 3600 sq. ft. with 14' - 16' ceilings.
2. have permanent risers with seating for 150-200 people. There should be a minimum of four tiers, each with a 40" depth and 10" rise. Additional depth should be provided on the top tier to accommodate traffic flow. Tiers should be contoured as per the following sketch:



3. have approximately one-half of the square footage located in front of the risers. This area will be used for staging recitals, opera scenes, etc.
4. have a green chalkboard on the front wall.
5. have a bulletin board located near the main access doors.
6. have access doors located in front of the risers large enough to accommodate movement of a grand piano. Dead air space should be provided as per the sketch for the instrumental rehearsal room.
7. have easy access from the choral rehearsal room to the auditorium stage.
8. have a faculty office opening into the rehearsal room with double glass windows for monitoring (privacy curtains needed).
9. have a storage area on the bottom level for scenery, costumes, props, etc. (door will need additional size).
10. have another storage area on the bottom level for choral shell, risers, uniforms, etc. (door will need additional size).
11. have another storage area for a permanent sound system located near the front.
12. have outside windows.

13. have an entrance door from the back of the room for controlling traffic flow for recitals.

14. have 150 chairs that insure correct posture for singing, a projection screen, a sound system, grid work and sufficient lighting instruments for minimal staging needs, and a grand piano and a small pipe organ.

II. AUXILIARY AREA

A. The instrument repair room should:

1. be at least 150 square feet.
2. be located adjacent to the faculty office in the instrument rehearsal room with access from the faculty office.
3. have a double sink with counter space on each side. Lockable storage cabinets should also be included.

B. The full-time faculty offices should:

1. be 6 in number and located as follows:
   a. one adjacent to instrumental room.
   b. one adjacent to choral rehearsal room.
   c. one adjacent to theory room.
   d. one adjacent to piano laboratory.
   e. one near instrumental rehearsal room.
   f. one near choral rehearsal room.
2. be at least 150 sq. ft. with 12' ceilings to accommodate office furniture, sound equipment, piano and private lesson teaching.
3. have built-in lockable storage cabinets for security of sound equipment and instruments.
4. have one desk and chair, two four-drawer filing cabinets, a bookcase, a small sound system, and a piano.

C. The associate faculty office should:

1. be at least 180 sq. ft. to accommodate the needs of twelve associate faculty.
2. have numerous built-in and lockable storage cabinets.

3. have a built-in clothes closet.
4. be located adjacent to the teaching studios.
5. have two desks and two chairs, one couch, and four four-drawer filing cabinets.

D. The multiple storage facilities should:

1. have storage areas adjacent to one another with limited access. The music library and secretarial office should also be located in the immediate area.
2. have storage for:

costumes and props, located adjacent to the choral rehearsal room with doors opening into that room. There should also be double doors of additional size for the movement of scenery. The room should be at least 450 square feet with 12' ceilings. It should include built-in costume racks and storage cabinets.

choral shell, risers, and uniforms located adjacent to the choral rehearsal room with doors opening into that room. The doors should be large enough to accommodate the choral shell. The room should be at least 350 square feet with built-in uniform storage racks.

sound equipment, located near the other storage areas, at least 150 square feet with easy access to both rehearsal rooms.

band instruments, of at least 850 sq. ft. with built-in instrument storage lockers along three of the walls. There should be two sets of doors from the instrument storage area into the instrument rehearsal room to enhance traffic flow.

instrument storage area should be adjacent to the uniform storage room and equipped with double doors. The room will require four 6' tables.

band uniforms, of at least 150 square feet in size, adjacent to the instrument storage area and the instrument rehearsal room. Storage racks should be built-in to two of the walls.

E. The music library workroom should:
   1. be at least 250 square feet.
   2. have built-in music sorting racks mounted on the wall.
   3. be located near the other storage facilities with easy access to either rehearsal room.
   4. have two 6' tables, a typewriter, and 20 four-drawer filing cabinets.

F. The secretarial office should:
   1. be at least 200 square feet.
   2. have built-in storage for office supplies.
   3. have a double sink and countertops.
   4. be located adjacent to the music library with easy access to either rehearsal room.
   5. have a desk and a chair, filing cabinets, a work table, office chairs, a typewriter, a ditto machine, and a 3M copier.

G. The student study area should:
   1. be at least 200 square feet.
   2. have lounge chairs, a couch, and study tables.

III. <u>THE NON-ASSIGNED SPACES SHOULD</u>:

A. have two public restrooms of approximately 100 square feet each.

B. have hallways wide enough to handle heavy traffic flow.

C. have a maintenance room as needed.

D. have a mechanical room as needed.

IV.

PERFORMING FACILITY

ARCHITECTUAL SPECIFICATIONS

Based upon comparisons to similar facilities in the state of Arizona and to selected references in the professional literature, the following architectual specifications are recommended for the music instruction facility:

I. STAGE AND RELATED AREAS (total sq. ft. - 6400)

A. The proscenium dimensions should be:

1. at least 65 feet at the opening with sufficient depth and wing space of approximately 50 feet. With a fly loft, the wing area on each side should be approximately 50% of the proscenium area.
2. in aesthetic and practical proportion to the proscenium width.

B. The fly loft should:

1. rise at least twice the height of the proscenium arch plus 8 feet above the stage floor, covering the entire stage and wing area.
2. be equipped with a gridiron. (An open-work floor of steel, 6 feet under the lowest roof girders).
3. include a counterweight system of no fewer than 40 lines.
4. have a gallery 4' - 10' wide, 20' - 30' above the stage floor.
5. include a hanging screen for cinema classes.

C. The floor construction should:

1. be of the "floating type" to allow for proper resiliency for dancers.
2. use kiln-dried, edge-grained, yellow pine or similar composition for the floor of the stage. It should also be seasoned with an oil finish and made in sections so it can be replaced when needed. The surface should be non-reflective, i.e. black. Some sections should be removable ("trapped") for special effects.
3. have an apron of durable composition, at least 3' wide, with some provision for foot lighting.
4. have adequate structural spanning of the main stage floor to support maximum foreseeable loads.

D. The related areas should:

1. include 30 battens to accommodate hanging of stage equipment.
2. include space for blister for rear projection.

3. include passage space for actors and technicians who are required to cross behind the playing area during the action of the play. If projections are to be used, the crossover space should not interfere with light beams from the projector.
4. include additional means of crossover underneath the stage.
5. have loading platforms accessible to the stage and well-lighted from overhead, with a canopy to protect scenery and equipment from the elements. The edges of the loading platform should be outlined in a bright color for safety.
6. have doors high and wide enough to handle standard-size flats and platforms and band shells for the music and drama department. The doors should be weather-stripped and slide up and down if possible. The loading platform should be gauged to standard truck tailboard height.
7. keep all walls free of all protrusions.
8. keep the back wall free of all encumbrances and protrusions so that it can be used as a uniform light-reflecting surface and so that the rear walls can be easily whitewashed. If you have roll-up doors, a cloth cyclorama is necessary.
9. not have windows in the stage walls.
10. not have light, shiny, or reflective surfaces such as gold, silver, or polished metals on or adjacent to the proscenium arch. Such shiny surfaces can reflect front-of-the-house lighting and distract attention from the performances on stage.
11. not have steep or slippery step risers. This becomes hazardous to actors in costume shoes. Non-slip cement treads with carborundum dust are helpful.
12. have railing for actors who must hurry up and down the stage during performances.
13. include water fountains in the lobby as well as backstage.
14. have a roof strong enough to provide for the "flying" objects.

15. have steps from the auditorium to both wings of the stage wide enough to carry large musical instruments two abreast.
16. have double-wide doors that operate silently.
17. have a music shell, preferably a cloth cyclorama.

E. The electrical stage should:

1. have separate glareless rehearsal and work lights.
2. conveniently locate the switchboard so that its operator will be able to view directly the entire stage and the action on it, including a patchboard directly off-stage.
3. have sufficient stage floor AC outlets off-stage right and left and in the center of the rear wall to operate all electrical equipment. Every allowance should be made for the future acquisition of desirable equipment not feasible within the original budget.
4. provide extra outlets to cover the possibility of visiting shows that bring additional electrical equipment. Musical comedies and performances require two to three times as heavy an electrical load as straight plays.
5. install carefully shielded lights which will provide good visibility for stage hands working at panels, switchboard, dimmer banks, and other machinery, but which will cast a minimum amount of glow and cause minimum audience distraction during dimly lit scenes or blackouts.
6. provide means of keeping sensitive and costly machinery under lock and key.
7. sufficiently ventilate and adequately light areas where sensitive and costly machinery is located.
8. position an electrical workshop adjacent to the stage.
9. include permanent wireways for all overhead and side lighting and multicord cable to avoid loose cables on the stage floor.
10. provide outlets for sound equipment, considering not only performance needs but also the needs of intercommunication systems.

11. distribute stage floor outlets on either side of the stage, offstage, and close to the back wall, center stage.
12. have permanently installed, at the first boom position, two batten boxes–one as a horizontal and another as a vertical lead, each 20 feet long. These boxes should be joined by a permanent and flexible multi-conductor cable sufficient in length to permit the vertical section to be raised to the grid. The vertical section should be wired with fifteen 15-ampere outlets, each terminating with a 3-ft. lead and female connector. Outlet leads on the vertical wireway should be wired 6 on center.
13. include adequate safety lighting.

II. BODY OF THEATRE - 500 Capacity Recommended (Approx. 6500 sq. ft.)

A. Seating should:

1. be conventional with side aisles accessible to the stage.
2. have floor slopes, balcony pitches, and seat positions designed to provide an unobstructed view of the entire performing area.
3. provide a viewing angle most suitable for the type of performance planned for the theatre. For instance, if a dance is planned, it will be important for the audience to be able to see the feet of the performers in any area where they will be dancing.
4. have a stage height above the orchestra floor approximately 4 inches lower than the eye line of spectators seated in the front row of seats. If the floor slopes provide sufficient sight line clearance, the stage floor can be lower.
5. have seats shaped for comfort, with upholstered bottoms that are resilient and give proper body support.
6. have seats upholstered for appearance and acoustical properties. The side and rear seats should be of darker shades because they may be unoccupied during some performances.
7. have seats that operate silently and hinge to facilitate the flow of traffic through rows.

8. have prominent number and letter labels. Numbering systems where the same row and number apply to more than one seat in the auditorium should be avoided. Aisle entrances should be prominently numbered to match appropriate numbers marked on tickets.

B. The access and egress should:

1. be a lightproof and as soundproof as possible.
2. open outward and as wide as legally possible.

C. The electrical accommodations should:

1. include a plug for the inter-communication system and a portable light located in the center of the front row of the orchestra pit and also in the center of the sixth row of auditorium. A separate inter-communication system plug and light for the designer and technician should be located a considerable distance behind the one for the director. (Many designers prefer a location in the center of the fourteenth row).
2. have spotlights placed so that they light the actors' faces at a good angle of projection and with a minimum of glare into the eyes of front-row spectators. Except for these spotlights, the majority of light locations should provide an angle of between 35 and 45 degrees of elevation (relative to the true horizontal) to the level of head height of an actor standing at the front of the stage.
3. have all lights readily accessible with safe, permanent catwalks, both to the gallery and to the lights themselves. These catwalks should have guard rails and should be adequately lighted without lighting leakage into the darkened auditorium. If catwalks are not feasible, provide means of lowering lights to within three feet of auditorium floor.
4. have fine wire mesh under all overhead lighting equipment to safe-guard against loose parts of equipment possible falling into the auditorium.
5. locate work lights for an electrician that do not limit his view of the stage.

B. be constructed to function as an art gallery, inclusive of hanging and lighting tracks.

C. have a box office with:

1. at least two windows to facilitate ticket buying, particularly at performance time.
2. adequate space for ticket racks and telephones.
3. adequate lighting and climate control.

D. have electrical and communication facilities to accommodate:

1. a sound system to announce seat availability to ticket lines. This might also be used to inform people in the lobby of the time remaining before curtain.
2. a warning or sound system to call people back to the auditorium after each intermission.

IV. AUXILIARY ROOMS/SPACES (Approx. 200 sq. ft.)

A. The property room should:

1. have adjustable shelves for small objects.
2. have ample open space for large objects.
3. have lockable cabinets for small supplies.
4. have hanging space for costumes.

B. The electrical workroom/storage should:

1. be approximately 250 square feet.
2. contain work area for assembling and maintenance of electrical gear and lockable storage bins for lights and electrical equipment.
3. be wired for 220 volt capacity.

C. The dressing/rest rooms should:

1. be approximately 800 square feet.
2. include individual stations for make-up. (Mirrors should also be included).
3. have lighting on faces to approximate stage light conditions.
4. include racks for costumes and hat shelves.
5. be immediately accessible to restrooms, washrooms and locker facilities. Three showers need to be included in each dressing room and should have sound isolation.

6. have permanent wiring troughs with connector pigtails at all ceiling-beam, face-of-balcony, booth, and side-wall locations where stage lights may be good.
7. have box-booms permanently placed so that lights mounted on them can light from the near corner to the center of the stage. These should be readily accessible and have flexible masking. A minimum of eight individual 30-ampere circuits on each side is essential, but the conduits should accommodate an eventual sixteen circuits per side.
8. accommodate a minimum of eight 8 - 750-watt elliptical spotlights, to which the individual designer may add lights when necessary. These should be located on each box-boom (left and right).
9. accommodate ceiling beam installations the same as those indicated below for the second-balcony fascia so that frontal lighting is at a 45-50 degree angle to the stage floor.
10. accommodate louvered aisle lights mounted on the sides of seats of alternate rows to illuminate walking areas.
11. provide readily accessible battery power or secondary service lights to illuminate orchestra and balcony in case of emergency.
12. provide convenient outlets spaced at intervals in base of orchestra and balcony walls. These can be used for auxiliary lights and electrical cleaning equipment.
13. accommodate portable table lights, and a complete inter-communication system between the director and all areas of the stage, dressing rooms, cellars, booths, orchestra pit, and the manager's office.

D. The acoustical concerns (Body of Theatre) should:
1. have noiseless air conditioning.
2. have an optimum reverberation time of 2.5 to 3.0 seconds.
3. be discussed with an acoustical consultant early in the building design.

III. <u>LOBBY</u> (Approx. 1000 sq. ft.)

A. have doors that are sealed to exclude light.

5. be immediately accessible to restrooms, washrooms and locker facilities. Three showers need to be included in each dressing room and should have sound isolation.
6. have full length mirrors in addition to table mirrors.
7. have closet space for stage wardrobe as well as personal clothing.
8. have lockable closets and drawers for personal clothing, personal possessions, and make-up.
9. have showers, toilets, proper heating, adequate ventilation, and/or air conditioning for the dressing rooms. There should be a minimum of two toilets and three showers per dressing room.

D. The green room should:
1. be approximately 200 square feet.
2. be carpeted.
3. have a chalkboard available.
4. be sound-proofed from the theatre and stage.
5. have provisions for serving drinks and coffee to save valuable rehearsal time.
6. be equipped with furniture and mirrors and bars for dancers.
7. have sinks, counter space, and electrical outlets.

E. The orchestra pit should:
1. be approximately 800 square feet.
2. be designed to provide variable elevations by means of a hydraulic lift. This could combine the functions of:
   a. Thrust Stage
   b. Seating Area
   c. Orchestra Pit

   Pit area can become additional forestage area if pit can be raised to stage level. Part of the pit floor can become forestage area and musicians may sit underneath. If this two-story arrangement is installed, be sure that the back wall is tipped so as to throw sound up and out.

3. have a pit in direct proportion to the size of the stage and sufficient to house potential orchestra requirements for the opera and musical theatre.
4. be deep enough so that the orchestra is completely out of sight of the audience.
5. have a director's podium high enough for him to be able to see the back area of the stage, yet remain in full view of the orchestra.
6. have sufficient double electrical outlets to accommodate the music racks of a maximum size orchestra. The outlets should be installed in the floor and walls to eliminate safety hazards. The circuit should be controlled from the stage switchboard. The musical director should have a master switch for all orchestra light circuits.
7. have a dimmer at the conductor's stand to control all music stand lights. These lights should also be controlled by a dimmer or switch located at the stage manager's position.
8. have entrances from both sides and a crossover underneath the stage to eliminate necessity of crossing behind acting area during performances.
9. have doors at least 6 feet, 8 inches high in order to eliminate the possibility of head injuries.
10. have doors 6 feet wide to allow for larger instruments, e.g., piano.
11. Pit should be carpeted and acoustically treated.

F. The control/recording rooms should:

1. be approximately 200 square feet.
2. be at the proper angle to avoid a keystone effect in the event that they are used as projection booths.
3. have capabilities for all light and sound control.
4. have multi-track tape recording capabilities. Also, editing functions shcuild be included.
5. have a remote-control console to utilize the advantage of an operator being able to view the stage. (Such booths are usually located in the rear of the uppermost level of seating.) Viewing angle should

permit the chief electrician at the console to have a clear view of the stage and of the drop farthese upstage.

6. have sound and light control. Amplifiers and loudspeakers inside these booths should be connected to a microphone in front of the acting area so that the operator in the sound booth can hear sound cues.
7. have sound-proof and light-proof booths so that the activity inside will not disturb the audience. Booth windows should have curtains which can be drawn during intermissions.
8. have a means of passage from the booths to the backstage area without crossing the auditorium.
9. be accessible by a slanting ship ladder with four-inch-wide treads.
10. allow for inter-communication to the stage manager's post. In some theatres, the show is managed from the booths by means of two-way communication between booths and stage assistant manager backstage. In such cases, be sure that speakers located backstage for purposes of inter-communication cannot be heard by audiences when they are operated at the required volume for hearing during performances.
11. have well-lighted controls and be air-conditioned.
12. have adequate wiring for carbon and follow-spotlights and projection machines which require direct current.
13. have a permanent dimmer and switchboard in a location (preferably in a projection booth) outside of the usable stage area.
14. have a board with no fewer than forty dimmers rated at 5000 or more watts each, and no fewer than thirty dimmers with dual rating of 1500 to 3000 watts each. Auxiliary dimmers may be brought in from time to time and may eventually be permanently required.
15. have a minimum of eight 30-ampere circuits and two 50-ampere circuits, located in the light booth at the rear of the house.

16. have an inter-communication telephone system, located in or on the switchboard with connections to the stage manager's post.
17. include design possibilities for future development of a radio station.

G. The office workroom should:
1. be approximately 100 square feet.
2. contain conventional office equipment.

V. NON-ASSIGNED SPACE (Approx. 3000 sq. ft.)

A. should include a mechanical room.

B. should include public restrooms.

VI. ACOUSTICAL CONSIDERATIONS

A. The air conditioning should:
1. have noise insulation in the ventilation system capable of achieving maximum sound attenuation.
2. allow for quiet operation and control of heating and cooling systems. Large ducts and low velocity of air tend to produce greater comfort and less noise. A cooled and heated ceiling can reduce the amount of blower cooling needed.

B. Rooms and equipment within the theatre building should be arranged to isolate noisy areas from quiet areas. For example, noisy equipment such as water closets should not be installed directly on the back of a wall adjacent to the auditorium.

C. The use of unbroken parallel side walls in the auditorium should be avoided.

D. Seats should be upholstered in such a way that an empty seat will come as near as possible to having the same acoustical absorption as one occupied by an average spectator.

VII. COMMUNICATIONS AND ELECTRONICS

A. Stereophonic sound systems for realistic sound reinforcement should be installed.

B. A communication system, e.g. closed circuit T.V., should be established between the following people:

1. Curtain personnel (if a curtain is used)
2. Electrician
3. Booths
4. Men in the fly gallery
5. Men at the grid
6. Director seated in orchestra
7. Actors at all entrance points
8. Actors in dressing rooms
9. Actors in washrooms
10. Orchestra conductor
11. Manager of the house
12. Head ushers in both orchestra and balcony
13. Box office
14. Remotely situated stage hands from the prompt side of the stage

VIII. EQUIPMENT

A. The performing facility should be designed to accommodate television use and production.

B. A concert grand piano (enclosed in built-in storage compartment in a side wing) should be included for musical presentations.

C. Portable risers for instrumental performances, and a storage area for them, will be needed.

D. A large pipe organ is desirable.

E. A concert harpsichord (Hubbard or Dowd) would be useful.

V. SUMMARY, CONCLUSION

The foregoing statements comprise a brief explanation of the need for, the justification of, and the basic construction requirements for a performing arts cultural center on the West Campus of Pima Community College. Additional supporting information can be found in the appendices and in the bibliographical references.

It should be recalled that this report represents the conceptual phase of this project and has been prepared by academic professionals who would be using the proposed building. The report does not reflect the direct involvement of an architect. This step would be included in the next phase of the project.

Based on prevailing building costs for similar structures (approximately $70 per square foot), it is expected that the cost for this facility would be approximately $2.4 million dollars. Additional related costs would bring the total cost of the project to about three (3.3) million dollars. Any significant delay in the construction of this building would of course increase the project cost according to corresponding inflationary adjustments.

PROPOSED PERFORMING ARTS CULTURAL CENTER WEST CAMPUS

PRELIMINARY PROJECT COST ESTIMATE

MARCH 20, 1978 - BY OFFICE OF FACILITIES PLANNING

General Site/Utilities Improvements	$ 250,000.00[1]	
Building Construction	2,380,000.00[2]	$2,630,000.00
Contingency 10%	263,000.00	
Architect/Engineer Fees 8%	231,440.00[3]	494,440.00
Furniture & Equipment	188,940.00[4]	188,940.00
Total Estimated Project Development Cost		$3,313,380.00

[1]Includes site grading and preparation; fire protection, water, gas, electrical, waste and storm collection and distribution extensions; heating, ventilating, and cooling tunnel and extensions; access drives, courts, walks, and landscaping improvements.

[2]Includes building construction, mechanical, plumbing, and electrical equipment, and other special fixed or built-in equipment; such as, stage lighting and equipment, theatre seating, special acoustical treatment, and audio/visual equipment. Per Ed. Specifications Building Area and Special Requirements (34,000 square feet @ $70/S.F.).

[3]Includes basic architectural fees at 6%, plus additional engineering fees for site surveys, soils testing, material testing during construction, and special consulting fees; such as, acoustical and decorating services.

[4]Estimated cost, developed with Music Faculty, for additional moveable furnishings and equipment required to equip the facilities for functional purposes.

Furniture and Equipment

Classroom Equipment	$ 28,035
Office Equipment	8.305
Sound Equipment	6,500
Keyboard Lab	25,000
Pianos	51,000
Organ	70,000
TOTAL	$ 188,940

VI. RECOMMENDATIONS

The committee that prepared this report is confident and proud of its work and recommends that the Board of Governors of Pima Community College:

1. approve the conceptual phase of this project;
2. seek approval of the conceptual phase of this project from the Arizona State Community College Board; and
3. authorize contracting an architectural plan for the Performing Arts Cultural Center.

APPENDIX I

MUSIC FACULTY PLANNING COMMITTEE

Monday, October 24, 1977

MINUTES

PRESENT	Mr. Albert Amado Dr. Jack Fuller Dean Diego Navarrette Mr. Ken McCollester Dr. Larry Solomon Mr. Harold Symms Mr. Carl Wachsman
AGENDA	Meeting was convened by Dr. Fuller, at 3:15 p.m. in the office of the Interim Dean, Diego Navarrette. Mr. Albert Amado was attending in place of Mr. Hugo Olsson. The attached agenda was discussed and distributed.
ARTICLE	Dr. Fuller referred to an article on the examination of E D S P E C S that he had distrubuted prior to this meeting. He encouraged the committee members to read the article in order that they may better understand their mission.
SUB-COMMITTEES	Two sub-committees were selected. Members Larry Solomon, Carl Wachsman and Harold Symms will prepare the first draft of the needs and specifications for the proposed facility. Members Ken McCollester, Hugo Olsson, and Jack Fuller will prepare the first draft of the organization, calendar of events, and written summary of the total committee effort.
VISITATIONS	Dr. Fuller invited suggestions for visitations to other music facilities as part of reference. It was agreed that on Thursday, October 27, 1977, the committee would join as a group to visit music facilities at Mesa College, Scottsdale College, Central Arizona College, and McClintock High School. Dr. Fuller will arrange for the vehicle and contact the receiving institutions.

MINUTES

REFERENCES — Dr. Fuller distributed similar kinds of documents that had been prepared for earlier PCC facilities. Dr. Fuller further advised that Dave Buus, of the college library, is conducting an E R I C search on educational specifications for music facilities. (see copies attached)

OTHER — Dr. Fuller invited suggestions for further relevant directions of the committee. Members advised that there were none at this time.

NEXT MEETING — The next meeting will be held on November 7, 1977, at 3:15 p.m., in Dean Navarrette's office. Prior to that meeting, the respective sub-committees will distribute drafts of the reports to the remaining committee members. The purpose of the November 7th meeting will be to review the preliminary reports and to discuss the visitations to other music facilities.

ADJOURNMENT

JF:vo

cc: Dr. I. Spector
A. Amado
K. McCollester
D. Navarrette
H. Olsson
L. Solomon
H. Symms
C. Wachsman

COMMITTEE

PERFORMING ARTS FACILITIES

Monday, November 7, 1977

MINUTES

PRESENT

The meeting was convened at 3:15 p.m. in Dean Navarrette's office. Messrs. Larry Solomon, Hugo Olsson, Albert Amado, Dean Diego Navarretta, Harold Symms, Carl Wachsman, and Jack Fuller were present.

Minutes of the last meeting were discussed.

DRAMA DEPARTMENT

Dr. Fuller reported that members of the Drama department were invited through Dr. Richard Snider to participate in the remaining deliberations of this committee. Dr. Fuller indicated that he would make another invitation to them to participate in subsequent activities of this group.

E R I C REPORT

Results of the E R I C Research reports that had been distributed prior to this meeting were discussed. Committee members were referred to Mr. Dave Buus in the library if they desired to order copies of the E R I C Research documents indicated.

VISITATION TO EASTERN AZ COLLEGE

The committee reviewed its visit to the four educational campuses of one week ago. The positive and negative features were discussed. It was agreed that the committee would travel to Eastern Arizona College on Tuesday, November 15, 1977. Dr. Fuller will have reserved a van and the group will depart from the transportation office of the West Campus at 8:00 a.m. that date.

REPORTS

A progress report was given on the work of the two sub-committees. By a next meeting of the poll-committee on November 21, 1977, at 3:15 p.m. in Dean Navarrette's office, it is hoped that preliminary drafts of the sub-committee reports will be available for review.

JF/vo

COMMITTEE

PERFORMING ARTS FACILITIES

Monday, November 21, 1977

MINUTES

PRESENT

Dr. Fuller convened the meeting at 3:15 p.m. in Dean Navarrette's office. Messrs. H. Symms, C. Wachsman, L. Solomon, D. Navarrette, A. Amado, B. Goldsmith, and J. Fuller were in attendance.

DRAMA DEPARTMENT

The committee recognized the attendance of Barclay Goldsmith from the Drama Department. Barclay reported that Dr. R. Snider and Mr. J. Swanke would appreciate reacting to further developments of this committee and its mission. The committee up-dated Mr. Goldsmith on the work of the group to date.

CALENDAR OF EVENTS

The following calendar of events was agreed to by the committee:

1.) The sub-committee on E D S P E C S will present their first draft to Dr. Fuller by, November 28, 1977.

2.) Dr. Fuller will reproduce and send each member of the committee a copy of these E D S P E C S by, November 29, 1977.

3.) Each member of the committee will respond to the E D S P E C S in writing to Dr. Fuller by December 2, 1977.

4.) Dr. Fuller will reproduce copies of all comments and provide each member of the committee with a total set of the comments, by, December 5, 1977.

5.) Committee members will review the entire set of comments and convene as a group on, Wednesday, December 7, 1977, at 3:15 p.m. in Dean Navarrette's office, to resolve differences.

6.) Dr. Fuller will prepare a final draft by December 9, for review by the President's office during the week of December 12-16, 1977.

TRIP REVIEW — Committee members reviewed the trip to Eastern Arizona College and the performing arts facilities of that institution.

NEXT MEETING — The next meeting of the performing arts facilities committee will be, Wednesday, December 7, 1977, at 3:15 p.m. in Dean Navarrette's office.

JF/vo

APPENDIX II

HOW TO ORGANIZE FOR EDSPECS DEVELOPMENT

WENDELL R. SHEETS AND
ROBERT E. HOSTETLER

Much has been written about the process of developing educational specifications, both for the development of a master plan for a campus and for the construction of a particular facility. A great deal of what has been written, however, is fragmentary—concerned only with a particular problem, or phase, or theory of educational specification development at a particular point in time.

There is a need, therefore, for a general summation of the process of EDSPECS (educational specifications) development, so that the institution faced with the task of developing educational specifications for either the master plan of a campus or for a particular facility will have some guidelines by which to proceed.

EDSPECS Defined—One of the problems in organizing for and in developing EDSPECS is to get a precise, workable definition of the term. The usual textbook definitions leave a good bit to be desired, in that most such definitions fail to state definitively what EDSPECS are; and, without a clear working definition, each person participating in the EDSPECS development will have a different understanding of what the term implies. The writers have found that using several definitions is the best way to provide a clear concept of the meaning of educational specifications.

First, educational specifications clearly define, in writing, all the functions (tasks) that it is anticipated will be performed at a site or in a proposed facility. The educational specifications begin with the philosophy of the institution, and are valuable only to the extent that the educational and supportive programs to be provided are detailed in them in a concrete and meaningful fashion.

A second way of defining EDSPECS is in terms of what the institution desires to accomplish in the process of developing them. This development process should accomplish four things for the institution:

1. State *where* the institution should be in relation to the facility in question at some time in the future
2. Establish *why* it wants to be there
3. Outline *how* it is going to get there
4. Describe *what* is going to be done there.

By looking at the development of EDSPECS in terms of where, why, how, and what, individuals working on them begin to get a clearer understanding of the purpose they serve and how they can best be developed.

A third way to define EDSPECS is to list what they are and are not.

EDSPECS ARE:

1. Based on the philosophy of the institution
2. Based on the educational program to be offered
3. Developed around function (tasks) to be performed
4. An exact description, in writing, of spaces required and the activities to take place in them, including identifiable interaction between spaces
5. Instructions to the master planner or the architect.

EDSPECS ARE NOT:

1. Line drawings of space desired (circle diagrams may be used to show space relationships)
2. Exact square footage instructions to the architect (square footages are best used where feasible as suggested minimums per student station, approximations, or illustrations of space size)
3. Thought of in terms of building (e.g., science building, cafeteria, administration building, etc.)
4. To design a campus or a facility—that is the architect's job. EDSPECS simply state what is to go on there.

Having defined EDSPECS, the question then might be asked as to why have them. The answer is relatively simple, namely, that educational specifications drawn up by the institution provide the educational program data which the master planner or the architect interprets into a master plan for a campus or into a design for a particular facility. In other words, master planners and architects translate written educational specifications into architectural design.

The Committee Approach—To accomplish efficient and practical educational specification development, committees should be formed. While it is realized that there are other ways of accomplishing this task—for example, some institutions prefer to assign the responsibility to a particular individual who then has "conferences" with as many dif-

ferent people as possible to solicit ideas—these approaches do not get as broad cross-section representation from on-line personnel, nor encourage participation from as many different persons as does the committee approach.

The committee approach will tend to solicit the volunteering of ideas from many who would not volunteer ideas to an individual or who might not be contacted by an individual developing EDSPECS; and it will assure broad cross-section representation from all levels of the institution, providing an opportunity for participation not only of the institution's faculty and staff, but also of supportive personnel, students, and the community.

COMMITTEE APPROACH

Thus, the committee approach gives each individual associated with the institution a chance to get his ideas, his pet theories at least heard during the process of educational specification development; total participation of all personnel is assured; and the ultimate satisfaction of all who use the facility will be enhanced since those who use it have planned it. In short, the committee approach will insure that the functions for which the facility is designed are "user oriented."

In the committee approach to educational specification development, it is wise to establish a steering committee to provide direction for the work of the various sub and ad hoc committees, and to review, edit and compile the final reports. This committee, composed of five to nine members, coordinates the development of all EDSPECS whether they be for a campus or for a particular building. They direct the work of sub and ad hoc groups, provide input from a variety of sources, coordinate the activities of committees with the administration, and make certain the educational specifications conform to the stipulations set forth in the building survey.

The actual work of developing educational specifications is done by sub-committees. For a one building project, the usual procedure is to have one sub-committee appointed for this particular facility. Each sub-committee elects its own chairman. Coordination and direction in the work is provided by the chairman of the EDSPECS steering committee. For projects involving more than one building, say for a campus, there will need to be a number of sub-committees, each responsible for developing EDSPECS for an assigned segment of the project; and these will need to be broken down further as the size and scope of the project dictates into additional ad hoc committees. Each ad hoc and sub-committee is responsible for a particular segment of the work, with the finished product being "rolled up" from one committee level to another until at the steering committee level the total picture of the campus or the facility ultimately takes shape.

During the EDSPECS development, whether at the steering committee level, the sub-committee level, or the ad hoc committee level, all persons involved should keep in mind that EDSPECS should always:

1. Be based on the philosophy of the institution
2. Be developed around the functions, that is, activities of students, instructors, and staff that will be performed, taking into account such factors as environment, facilities, utilities, specialized furniture, specialized equipment, instructional materials, etc.
3. Be specific in stating the functions to be carried out in the areas, spaces, rooms needed (e.g., instruction, office, assembly, utilities, storage)
4. Be clear in establishing relationships within spaces or areas (e.g., to the institution as a whole, to programs that are closely related).

In addition, a tentative timetable establishing points at which it is anticipated that phases of the operation will be completed should be prepared; an organizational chart of the structure of the planning process or organization should be developed; and the specific responsibilities of different staff positions and/or areas on the organizational chart should be delineated.

The foregoing briefly pulls together selected basic concepts that an institution must consider if it is to be successful in developing workable educational specifications. What has been outlined here is only the beginning. Areas not covered include the outline of items to be included in the EDSPECS themselves; the relationship with architects and/or master planners; and the actual mechanics of establishing and utilizing the various committees. Nevertheless, if persons responsible for institutional planning will take these first steps, they will at least be on their way to utilizing a procedure that has proven itself workable for the development of sound educational specifications. □

Appendix III

WEST CAMPUS

STUDENTS WITH DRAMA AND MUSIC CURRICULUM-INTENTS

DRAMA

Semester	Total	Full-Time	Part-Time
Fall 1974	30	17	13
Spring 1975	40	22	18
Fall 1975	62	28	34
Spring 1976	60	27	33
Fall 1976	68	24	44
Spring 1977	57	26	31
Fall 1977	52	25	27

MUSIC

Semester	Total	Full-Time	Part-Time
Fall 1974	124	51	73
Spring 1975	157	59	98
Fall 1975	192	81	111
Spring 1976	178	81	97
Fall 1976	170	60	110
Spring 1977	159	60	99
Fall 1977	187	78	109

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